REMARKS

Claims 1 to 11 remain in this application.

Claims 2, 4, 6, 7, and 9 have been amended to more particularly conform to the provisions of 35 U.S.C. 112.

Reconsideration of the rejection of the claims is requested.

Claim 1 has been rejected as being anticipated by Schaeffer. Issue is taken in this respect.

Schaeffer describes a thermal barrier coating 10 that includes a ceramic layer 12 over a bond coating 14 that overlies a metal alloy substrate 16 [a blade] (see paragraph 0016, lines 3-5). Further, Schaeffer teaches that the bond coating 14 must be oxidation-resistant and typically forms an alumina layer 18 on the surface of the bond coating when the coated blade is exposed to elevated temperatures (see paragraph 0016, lines 8-11).

The Examiner alleges that Schaeffer has a layer of alumina formed over a bond coat. Issue is taken in this respect. Clearly, Schaeffer teaches that the layer of alumina 18 is part of the bond coating itself and is formed when the bond coating 14 is exposed to elevated temperatures. Presumably, if the bond coating 14 were not exposed to elevated temperatures, the alumina layer 18 would not be formed. In any event, the alumina layer 18 does not constitute "a coating" as claimed in claim 1 on the bond coating 14. Said another way, the alumina layer 18 is part of the bond coating 14.

The Examiner further considers the alumina layer 18 of Schaeffer as a crack-arresting layer. Issue is taken in this respect. There is no teaching in Schaeffer that the alumina layer 18 is a crack-arresting layer. Instead, Schaeffer teaches that the alumina layer 18 serves to protect the underlying substrate 16 from oxidation.

In view of the above, a rejection of claim 1 as being anticipated by Schaeffer is not warranted pursuant to the provisions of 35 U.S.C. 102.

Claim 1 has also been rejected as being anticipated by Subramanian '137. Issue is taken in this respect.

Subramanian '137 describes a bond coat 16 applied to a substrate surface 14 in order to improve the adhesion of a subsequently applied thermal barrier coating. The thermal barrier coating 18 includes a first bottom layer 20 and an overlying top layer 22

with at least the density being different between the two layers (column 4, lines 32-36). In addition, the top layer 22 is segmented to provide additional strain relief in that layer as illustrated in Fig. 1. As described, a plurality of segments 26 bounded by gaps 28 are formed in the top layer 22 by a laser engraving process. (column 5, lines 5-9)

Subramanian '137 defines a specific modeling technique to select an appropriate segmentation strategy with a gap centerline spacing of 1000 microns (see column 5, lines 32- 49) and with a width of a gap at the surface of the coating 18 being maintained to be no more than 50 microns and preferably no more than 25 microns (see column 5, lines 60-63). This modeling technique is to provide uniformly spaced U-shaped gaps 28 with a width of 25-50 microns created by vaporizing the ceramic material by using a laser device.

The Examiner considers the gaps 28 of Subramanian '137 as "cracks." Issue is taken in this respect. The modeling technique taught by Subramanian '137 has nothing in common with the formation of the cracks as created in the claimed coating wherein the cracks are randomly spaced, with sub-micron separation created due to stress imposed on the coating.

Subramanian '137 provides specific teachings of forming the segments 26 and gaps 28 (see column 5, line 31, et seq.). Further, Subramanian '137 specifically teaches the use of laser energy to form the gaps 28 and the use of bond-inhibiting material within the gaps to reduce the possibility of a permanent closure of the gaps by sintering during long-term, high-temperature operation (column 6, lines 9-13). Accordingly, there is no basis in Subramanian '137 to support the Examiner's position that the specifically sized, spaced-apart gaps 28 are "cracks".

It is noted that the vertically cracked top coat set forth in claim 1 of this application provides for randomly disposed vertical cracks that are clearly not gaps as in Subramanian '137.

In view of the above, a rejection of claim 1 as being anticipated by Subramanian '137 is not warranted pursuant to the provisions of 35 U.S.C. 102.

Claim 1 has also been rejected as being anticipated by Subramanian '539. Issue is taken in this respect.

Subramanian '539 describes a thermal barrier coating 12 formed of a first layer of insulating material 20 and a second layer of insulating material 22 with the properties of the two layers being different. Subramanian '539 teaches that the first layer 20 may have a degree of porosity sufficiently high to arrest the propagation of a crack originating at the generally vertical gaps 26. Thus, Subramanian '539 teaches that the gaps 26 themselves are not cracks. Accordingly, a rejection of claim 1 as being anticipated by Subramanian '539 is not warranted pursuant to the provisions of 35 U.S.C. 102.

Claims 2 to 6 depend from claim 1 and are believed to be allowable for similar reasons.

Claim 7 contains recitations similar to claim 1 and is believed to be allowable for similar reasons.

Claim 8 depends from claim 7 and is believed to be allowable for similar reasons.

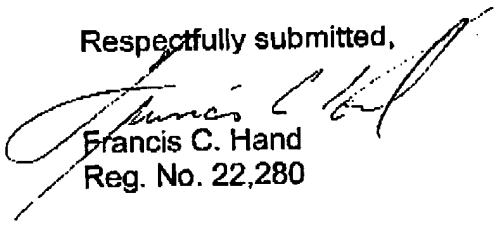
Claim 9 contains recitations similar to claim 1 and is believed to be allowable for similar reasons.

Claims 10 and 11 depend from claim 9 are believed to be allowable for similar reasons.

The remaining reference has been reviewed; however, such is not believed to be further pertinent to the claim structure, taken alone or in combination.

The application is believed to be in condition for allowance, and such is respectfully requested.

Respectfully submitted,



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